REMARKS

Claims 1-16 are pending in the above-identified application. Claims 1-16 were rejected. New claims 17-20 were added. Accordingly, claims 1-20 are at issue in the above-identified application.

35 U.S.C. § 103 Obviousness Rejection of Claims

Claims 1-16 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Ota et al.* (JP 2002-163624). Applicants respectfully traverse this rejection. Withdrawal of this rejection is respectfully requested.

The present invention relates to an IC card having an information recording medium for us in an ID card, and more particularly the present invention is concerned with an IC card having both recorded information of electronic data invisible information. In recent yours, as means capable of controlling and protecting personal data, an IC card having an IC chip incorporated has drawn attention since it has a large data capacity and it can contain coated data. The IC chip is mounted on an insulating substrate having an antenna coil, which forms a projection on the front and back surfaces of the IC card due to a ceiling resent or reinforcing plate provided thereon. For this reason, there is a problem in that the uneven surface of the IC module causes the card surface to be uneven during the forming of the IC card and as a result, lowers the flatness of the card which leads to issues when printing on the IC card. Therefore, it is favorable to develop a method for securing the flatness of the surface of the IC card upon the IC card being formed. As a conventional technique from proving the flatness of the card surface, for example, a structure for a card in which a through hole is formed in a plastic sheet stacked on an IC

module in a region corresponding to the IC mounted portion so as to absorb the uneven surface of the IC module is described in Japanese Patent Application Publication No. 2001-319210.

Applicants have conducted extensive and intensive studies with a view towards solving the above-stated problems and have discovered, as a result, that when the projection height in the IC mounted portion of the IC module and the height of the through holes for containing the IC mounted portion *meet a certain requirement*, the flatness of the surface of the card after being formed can be improved. More specifically, Applicants have discovered that when the sum of the heights of the through holes is taken as A in microns, the projection height on the IC mounted surface of the IC module is taken as B_1 in microns, the projection height on the IC non-mounted surface of the IC module is taken as C_1 in microns, and the value of A falls in the range of $(B_1+C_1)\pm30$ microns, the flatness of the card surface is improved.

Specifically, when the sum A of the heights of the through holes is larger than the sum of the projection heights B1, C1 of the IC module, an empty region in which the IC mounted portion is not contained is formed in the through hole to cause a step. This step is filled with a molten resin which flows from the periphery during the forming, so that the card surface portion above the IC mounted portion is prevented from becoming uneven, thus improving the flatness of the card surface. In addition, when the sum A of the heights of the through holes is smaller than the sum of the projection heights B1, C1 of the IC module, the IC mounted portion projecting from the through hole forms a step, and the sheet materials stacked on the step are molten by heating during the forming and spread to absorb the step, so that the card surface portion above the IC mounted portion is prevented from becoming uneven, thus improving the flatness of the card surface.

On the other hand, when the difference between the sum A of the heights of the through holes and the sum of the projection heights (B1 + C1) is larger than 30 μm, an empty region caused in this case is not absorbed satisfactorily during the forming process and eventually causes the card surface to be uneven, so that favorable printing properties cannot be obtained.

Ota et al. provides an IC card with an IC module 11 equipped with reinforcing plates 9 and 9′ through sealed resins 7 and 7′ on an IC chip 5 packaged on an insulated substrate 1 and the non-packaging plane of the IC chip 5 on the insulated substrate 1, a card substrate 13 composed of two thermal plastic resin sheets 15 and 16 press-contacted in the state of holding the IC module 11 in a thermosensible recording layer 20 provided on at least one side of the card substrate 13, the reinforcing plates 9 and 9′ have a form to be settle within a circle having the diameter of a length adding 2 mm to the longest dimension of the IC chip 5 or within a graphic expanding each of the sides of the IC chip 5 for 3 mm within a range capable of setting the plane view form of the chip, as illustrated in Fig. 1. *Ota et al.* fails to teach or disclose an IC card having a plurality of sheet materials wherein at least one of the sheet materials adjacent to an IC module in the IC card has a through hole for containing therein an IC chip. While the Examiner admits that *Ota et al.* is silent to through holes for an IC module, the Examiner maintains that somehow *Ota et al.* conforms to the relationship $A=(B_1+C_1)\pm30$ microns. However, Applicants maintain that since A represents the sum of heights of said through holes and since *Ota et al.* does not teach any through holes that it is impossible for *Ota* to satisfy the relationship $A=(B_1+C_1)\pm30$ microns, since *Ota et al.* fails to teach or disclose a height A of a through holes.

In view of the foregoing, Applicant submits that the application is in condition for allowance. Notice to that effect is requested.

Respectfully submitted,

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